REMARKS

The Office Action of October 28, 2005 was received and carefully reviewed. The Examiner is thanked for reviewing this application

Claims 2-25 are pending prior to the instant amendment, of which claims 2, 5, 9, 12, 16 and 19 are independent.

Referring to the detailed Office Action, claims 2-3, 6, 9-10, 12-13, 15-17 and 19-20 stand rejected under 35 U.S.C. 103(a) as unpatentable over Cunningham et al. (U.S. Patent No. 3,833,842 - hereinafter Cunningham) and in view of Mori et al. (U.S. Patent No. 5,243,202 – hereafter Mori). Further, claims 4, 7, 11, 14, 18 and 21 stand rejected under 35 U.S.C. §103(a) as unpatentable over Cunningham and Mori, and further in view of Nomoto et al. (U.S. Patent No. 5,225,364 - hereinafter Nomoto). Still further, claims 5, 8, 15 and 22 stand rejected under 35 U.S.C. §103(a) as unpatentable over Cunningham and further in view of Yamazaki et al. (U.S. Patent No. 6,586,346 - hereafter Yamazaki). These rejections are respectfully traversed at least for the reasons provided below.

Initially, Applicant notes that there is no detailed rejection of dependent claims 23-25. Hence, Applicants will not address these claims and respectfully request the Examiner to clarify the status of claims 23-25 and give Applicant an opportunity to respond, if necessary.

Further, Applicant notes that the prior art rejections in the Office Action mailed October 28, 2005 are verbatim of the prior art rejections in the Office Action mailed May 18, 2005. The Examiner does not appear to have considered Applicant's argument that the Examiner's rejection is based on an unclaimed feature.

As submitted in the Request for Reconsideration filed August 17, 2005, the Examiner stated, "Mori, in fig. 7, discloses an analogous semiconductor device including the silicon nitride comprising nitrogen at 75% volume or more in order to have a film that has high break down voltage (col. 30, lines 5-25.)". In contrast with Mori, Applicant's claimed invention is characterized by forming an insulating film comprising silicon nitride over a semiconductor by sputtering in an atmosphere comprising nitrogen at 75 volume % or more. Clearly, the disclosed feature of Mori is different from Applicant's claimed feature.

On page 5 of the Office Action, the Examiner asserted that Mori was used to incorporate with Cunningham to show the volume of nitrogen of at least 75%. However, as discussed above, Mori's device including the silicon nitride comprising nitrogen at 75%

volume is not a claimed feature and therefore cannot be combined with Cunningham in the rejection to cure Cunningham's deficiency.

Still further, as submitted previously, Mori teaches a CVD method, as disclosed in, e.g. Col. 26, lines 14-15, wherein it is stated "A silicon-based thin film according to the present invention is formed by using a plasma CVD apparatus". On the other hand, the presently claimed invention is directed to a sputtering method, and there is no suggestion or motivation to combine the sputtering method of Cunningham with the CVD method of Mori to arrive at Applicant's claimed invention.

In response to Applicant's arguments, on page 4 of the Office Action, the Examiner asserts that unobviousness cannot be established by attacking references individually when rejection is based on combination of references. It is respectfully submitted that, however, that a *prima facie* case of obviousness requires that "the prior art reference (or references when combined) must teach or suggest all the claim limitations." See MPEP § 2142. It is respectfully submitted that none of the references suggest or motivate the combination of a CVD method of Mori with the sputtering method of Cunningham to arrive at Applicant's claimed feature of forming an insulating film comprising silicon nitride over a semiconductor by sputtering in an atmosphere comprising nitrogen at 75 volume % or more. Absent a disclosure or suggestion of this feature, it is respectfully submitted that MPEP § 2142 dictates that a *prima facie* case of obviousness cannot be maintained.

Further, the Examiner's assertion that the references are attached individually is groundless, as Applicant properly pointed out the deficiency in each of the cited references and their lack of motivation to combine their respective different teaching to arrive at Applicant's claimed invention.

With respect to the Examiner's repeated identical reasoning for the rejections, Applicant respectfully reiterates that Mori is directed to a plasma CVD method. Further, col. 3, Lines 9-24 of Mori discusses plasma CVD as follows:

This plasma CVD method is a method of supplying a process gas to a chamber in which a substrate heated to a predetermined temperature is set, causing a high-frequency glow discharge (RF discharge) upon supply of an RF current so as to set the process gas in a plasma state while the pressure of the process gas is controlled to a predetermined value, and depositing a silicon compound on the substrate, thereby forming a silicon based thin film. The process gas consists of a main reaction gas serving as a source gas for a film to be formed and a carrier gas for diluting the main reaction gas to obtain the plasma state. In order to form the SiN film, monosilane (SiN) gas and ammonia (NH_3) gas constitute a main

reaction gas, and nitrogen (N_2) gas is used as a carrier gas,). [emphasis added]

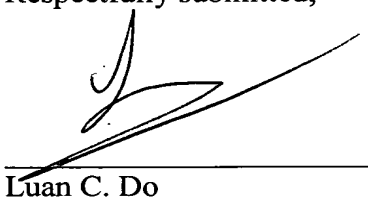
On the other hand, Cunningham teaches forming a silicon nitride film by a sputtering method in an atmosphere containing nitrogen. However, the sputtering method is performed by using a target (e.g. silicon, silicon nitride) and a reaction gas (e.g. nitrogen gas, halogen gas). By the sputtering method, a material of the target reacts to the process gas, and then a silicon nitrogen film is deposited. Thus, the sputtering method is completely different from the plasma CVD method.

The requirements for establishing a *prima facie* case of obviousness, as detailed in MPEP § 2143 - 2143.03 (pages 2100-122 - 2100-136), are: first, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference to combine the teachings; second, there must be a reasonable expectation of success; and, finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. Applicant respectfully asserts that there is no motivation to combine the CVD method of Mori with the sputtering method Cunningham to arrive at Applicant's claimed invention. As the Examiner has failed to point out where motivation can be found to change the CVD method of Mori to sputtering so that Mori could be combined with Cunningham, a *prima facie* case of obviousness has not been established.

With respect to other rejections based on the combination of Cunningham with Mori, the arguments set forth above with respect to the rejection of independent claims 2, 9, 12, 16 and 19 are also applicable.

In view of the foregoing, it is respectfully requested that the rejections of record be reconsidered and withdrawn by the Examiner, that claims 2-25 be allowed and that the application be passed to issue. If a conference would expedite prosecution of the instant application, the Examiner is hereby invited to telephone the undersigned to arrange such a conference.

Respectfully submitted,



Luan C. Do
Registration No. 38,434

NIXON PEABODY LLP
Suite 900, 401 9th Street, N.W.
Washington, D.C. 20004-2128
(202) 585-8000